Chronic kidney disease in sub-Saharan Africa: a public health priority

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In 2008, the World Health Assembly endorsed the Global Noncommunicable Disease Action Plan amid growing evidence that NCDs have replaced communicable disease as the most common cause of premature mortality worldwide.[1] Chronic kidney disease (CKD), a non-communicable disorder included in the plan, is ranked 18th among the global causes of death—it was ranked 27th in 1990, and the number of deaths from CKD has risen by 82% during that time.[2] It is the third largest increase among the top 25 causes of death, behind HIV/AIDS (396%) and diabetes (93%).[2]

In the adult US population the estimated prevalence of CKD stage 1–4 is 11·6% (about 26 million people),[3] a figure similar to that reported in other high-income countries, such as Norway (10·2%), Japan (12·7%), Taiwan (11·8%), China (10·7%), and South Korea (13·7%).[4] Less information, however, is available from low-to-middle-income countries, where prevalence of mild-to-moderate CKD is variable but generally lower than 20% of the total adult population.[4] Even more scarce are CKD data from very poor regions, such as sub-Saharan Africa.

In *The Lancet Global Health*, John Stanifer and colleagues assessed the largely sparse and anecdotal information about the epidemiology of CKD in sub-Saharan Africa in their systematic review and meta-analysis.[5] Only 21 of the retrieved 90 articles were regarded as suitable for the analysis (being of medium-to-high quality), eventually providing data for only 13 of 47 countries in the region. Most of the 44 145 studied individuals were younger than the age at which renal function naturally declines, with a mean age ranging from 35 years to 46 years. With this background and the limitation of data missing for most countries, the overall prevalence of CKD in the region was 13·9% (95% CI 12·2–15·7), with estimates ranging from 2% in Cote d'Ivoire to 30·2% in Zimbabwe, and approaching 20% in Ghana, Nigeria, Rwanda, and DR Congo. Between-country differences in reported data are largely a result of the unavailability of blood or dipstick urine tests to diagnose kidney disease, even though they are very simple or inexpensive. The diagnosis of CKD is therefore easily missed. Estimated CKD prevalences could also simply depend on between-country differences in CKD definition and populations screened. Therefore, firm conclusions about CKD prevalence in the region cannot be reached, but the true burden is probably high.

In their analysis, the investigators did not include common causes of CKD in sub-Saharan Africa other than HIV, diabetes, and hypertension—notable omissions were chronic glomerulonephritis and use of herbal or traditional treatments. Also, communicable diseases might contribute substantially to CKD burden in low-income countries. For example, in several resource-poor regions worldwide, tuberculosis—which often causes irreversible renal destruction—is endemic.[6] Community screening programmes in Mongolia and Nepal have shown that more than 40% of people with CKD did not have diabetes or hypertension.[7] Moreover, data from Nepal and Bolivia showed that more than 5% of people younger than 60 years without previous history of diabetes and hypertension had microalbuminuria or proteinuria.[8] Together, these findings indicate that, in low-income countries, glomerulonephritis and CKD of unknown origin might account for a larger proportion of the total CKD burden. Considering that the prevalence of diabetes and high blood pressure is also progressively increasing in resource-poor countries, it should be assumed that the CKD burden will become even higher in regions such as sub-Saharan Africa than in high-income countries.

The broad message from Stanifer and colleagues' study draws attention to three important areas that should be considered when developing an approach to renal disease in sub-Saharan Africa. An urgent requirement exists for health information systems to capture data to better measure the incidence and prevalence of renal failure, track patient outcomes, establish the true burden of disease, and assess access to and quality of nephrology services. At the same time, efforts to increase awareness about kidney disease and its complications in communities and among many physicians should be pursued because many are not aware of the severity of this disorder, which probably serves as a barrier to appropriate care of patients even

where available. More importantly, the development of specific national health policies for the early detection and treatment of kidney disease are needed, including policies to strengthen laboratory infrastructures to improve accuracy of diagnosis. Besides saving young lives, such action would create major health gains and minimise the present health inequity that arises mainly from the unaffordable cost of renal replacement therapy if end-stage kidney disease is not prevented.

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